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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,566	01/18/2002	Rodney D. Borst	7359-6	1352

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EXAMINER	
LEE, EDMUND H	

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/051,566	BORST, RODNEY D.	
	Examiner	Art Unit	
	EDMUND H. LEE	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *28,29 and 33-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *28,29 and 33-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 33-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 33 and 34 are dependent on a now canceled claim.

correction is required.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 28-29 and 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards (USPN 3418690) in view of White (USPN 4495135). It should be noted that both claims 33 and 34 have been interpreted as being dependent on claim 28. In regard to claim 28, Edwards teaches a method of vacuum thermoforming a container which an outer surface including an outwardly-projecting ridge, the container further including a base, side walls, and an inwardly-projecting cut lip (figs 1-11); providing a mold defining a cavity conforming in shape to the outer surface of the container, the cavity including an undercut portion corresponding to the ridge of the container, the molding including separable mold means 20 and plug 28, the mold means defining the undercut portion and further defining a surface corresponding to the side walls of the container, the plug defining a surface corresponding to the base

of the container (figs 1-11); positioning a heated sheet of thermoplastic material over the mold (figs 1-11); drawing the heated sheet of thermoplastic material over the upper lip of the mold and down into the cavity and into the undercut portion of the mold (col 3, lns 19-21; figs 1-11); allowing the drawn thermoplastic material to cool below the glass transition temperature to assure that it will retain its shape (figs 1-11)--such is inherent in order to prevent damage to the molded article and Edwards teaches that the sheet of thermoplastic is chilled while in contact with the mold (col 5, lns 33-36); cutting the thermoplastic material along the upper lip of the mold to separate the drawn thermoplastic material in the mold cavity from the remainder of the thermoplastic material (figs 1-11); separating the mold means and the plug (figs 1-11); and removing the thermoformed container from the mold means and the plug (figs 1-11). Edwards also teaches using a cavity shaped so that t he seprated thermoplastic material is a shell having a base surrounded by integrally formed side walls extending upward to a cut lip, the walls and base formed of a single thermoplastic sheet and defining a volume, the side walls including a ridge below the cut lip, the ridge protruding away from the volume and being sized to support the shell on a lower surface of the ridge against a cut lip of a second identical shell with the bases of the two shells spaced apart when the shell is nested within the second identical shell, the cut lip extending inward about the volume (figs 1A, 3D and 11). Since Edwards teaches that the *preferred or desired* time to cut/shear the drawn is while the drawn sheet is hot, Edwards also implicitly teaches that the cutting/shearing step can be performed after the drawn sheet is chilled (col 5, lns 31-36 and 67-71). Edwards, however, does not teach using a three-part mold

including a first portion having a planar upper surface, an upper lip and defining an upper part of the undercut portion, a second portion defining a lower part of the undercut portion, and the first and second portions of the mold being separable along a part line corresponding to the outermost extent of the ridge of the container. White teaches vacuum thermoforming a container having an undercut flange (figs 3-8); and using a mold including a first portion having a planar upper surface, an upper lip and defining an upper part of an undercut portion, a second portion defining a lower part of the undercut portion, and the first and second portions of the mold being separable along a part line corresponding to the outermost extent of the ridge of the container (figs 3-8). Edwards and White are combinable because they are analogous with respect to removing a vacuum thermoformed container having an undercut flange from a molding cavity. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate separable first and second portions as taught by White into the mold of Edwards in order to facilitate removal of the container having the undercut flange and to reduce the risk of damaging the container having the undercut flange during removal. In regard to claim 29, the limitations are taught by Edwards (fig 11). In regard to claims 33-34, the limitations are taught by the above combination of Edwards and White. See figs 1A, 3D and 11 of Edwards. In regard to claim 35, such is a mere obvious matter of choice dependent on equipment design and of little patentable consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, it is well-known in the molding art to remove a product from between mold portions. Thus, it would have been obvious to one of ordinary skill in the

art at the time the invention was made to remove the container of Edwards from between the first and second portions of the mold of Edwards (modified) in order to reduce any damage to the container. In regard to claim 36, such is taught by the combination of Edwards and White. In regard to claim 37, such is a mere obvious matter of choice dependent on equipment design and of little patentable consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, it is well-known in the molding art to separate mold portions by lowering one portion from the other portion. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to separate the first and second portions of the mold of Edwards (modified) in order to reduce any damage to the container. In regard to claim 38, such is taught by Edwards (fig 3c).

4. Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards (USPN 3418690) in view of White (USPN 4495135). In regard to claim 39, Edwards teaches a method of vacuum thermoforming a container which includes an outer surface including an outwardly-projecting ridge, a base, side walls, and an inwardly-projecting cut lip (figs 1-11); providing a mold defining a cavity conforming in shape to the outer surface of the container, the cavity including an undercut portion corresponding to the ridge of the container, the molding including separable mold means 20 and plug 28, the mold means defining the undercut portion and further defining a surface corresponding to the side walls of the container, the plug defining a surface corresponding to the base of the container (figs 1-11); positioning a heated sheet of thermoplastic material over the mold (figs 1-11); drawing the heated sheet of

thermoplastic material over the mold and into the cavity and into the undercut portion of the mold (col 3, lns 19-21; figs 1-11); allowing the drawn thermoplastic material to cool below the glass transition temperature to assure that it will retain its shape (figs 1-11)--such is inherent in order to prevent damage to the molded article and Edwards teaches that the sheet of thermoplastic is chilled while in contact with the mold (col 5, lns 33-36); cutting the cooled thermoplastic material along the upper lip of the mold to separate the drawn thermoplastic material in the mold cavity from the remainder of the thermoplastic material (figs 1-11); separating the mold means and the plug (figs 1-11); and removing the thermoformed container from the mold means and the plug (figs 1-11). Edwards also teaches using a cavity shaped so that the separated thermoplastic material is a shell having a base surrounded by integrally formed side walls extending upward to a cut lip, the walls and base formed of a single thermoplastic sheet and defining a volume, the side walls including a ridge below the cut lip, the ridge protruding away from the volume and being sized to support the shell on a lower surface of the ridge against a cut lip of a second identical shell with the bases of the two shells spaced apart when the shell is nested within the second identical shell, the cut lip extending inward about the volume (figs 1A, 3D and 11). Since Edwards teaches that the *preferred or desired* time to cut/shear the drawn is while the drawn sheet is hot, Edwards also implicitly teaches that the cutting/shearing step can be performed after the drawn sheet is chilled (col 5, lns 31-36 and 67-71). Edwards, however, does not teach using a three-part mold including a first portion having a planar upper surface, an upper lip and defining an upper part of the undercut portion, a second portion defining a lower part of the

undercut portion, and the first and second portions of the mold being separable along a part line corresponding to the outermost extent of the ridge of the container. White teaches vacuum thermoforming a container having an undercut flange (figs 3-8); and using a mold including a first portion having a planar upper surface, an upper lip and defining an upper part of an undercut portion, a second portion defining a lower part of the undercut portion, and the first and second portions of the mold being separable along a part line corresponding to the outermost extent of the ridge of the container (figs 3-8). Edwards and White are combinable because they are analogous with respect to removing a vacuum thermoformed container having an undercut flange from a molding cavity. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate separable first and second portions as taught by White into the mold of Edwards in order to facilitate removal of the container having the undercut flange and to reduce the risk of damaging the container having the undercut flange during removal. In regard to claim 40, such is a mere obvious matter of choice dependent on equipment design and of little patentable consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, it is well-known in the molding art to remove a product from between mold portions. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to remove the container of Edwards from below the first portion of the mold of Edwards (modified) in order to reduce any damage to the container. In regard to claim 41, such is taught by the combination of Edwards and White.

5. Applicant's arguments filed 3/27/06 have been fully considered but they are not persuasive. Applicant argues that applicant's thermoformed container cannot be removed from the mold by simply moving the container upward through a unitary mold as taught by Edwards. Applicant's argument is misplaced because the claimed invention has been shown to be obvious over Edwards in view of White. Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant also argues that the combination of Edwards and White does not teach cutting the material after the material has cooled below its glass transition temperature. Applicant further argues that Edwards teaches that the sheet must still be heated during the cutting step. This argument is misplaced because applicant has overlooked the fact that cutting while the sheet is still hot is a preferred or desired embodiment. The fact that those embodiments are preferred or desired leads one of ordinary skill in the art to understand that Edwards implicitly teaches that the sheet can be cut after it has been chilled. Thus, Edwards teaches the claimed limitation of cutting after the step of allowing.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDMUND H. LEE whose telephone number is 571.272.1204. The examiner can normally be reached on MONDAY-THURSDAY FROM 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on 571.272.1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EDMUND H. LEE
Primary Examiner
Art Unit 1732

EHL

6/12/06